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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,102	08/29/2001	William R. Wheeler	10559-595001 / P12879	6907
20985	7590	10/05/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			THOMPSON, ANNETTE M	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **6K**

09/942,102

Applicant(s)

WHEELER ET AL.

Examiner

A. M. Thompson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-18, 20-28 and 30-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 20-28 and 30-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 29 March 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09 July 2004 has been entered. Claims 1-9, 10-18, 20-28, and 30-33 are pending.

Claim Objections

2. Claims 4, 13, 23, 30 and 33 are objected to because of the following informalities: Pursuant to claims 4, 13, and 23 and based on Applicants' specification, "selectivity" should be *sensitivity*. Pursuant to claims 30 and 33, these claims depend from a cancelled base claim. Pursuant to claim 3, Applicants must clarify from where the computer instruction is imported. Pursuant to claims 5 and 6, Applicants need to "capturing data" and "using a set of abstractions" to the method of generating a logic design, the embedding of a computer instruction, or some other limitation of claim 1 (e.g. what data is being captured and for what purpose ?; what are the abstractions being used for or what do they represent ?). Pursuant to claim 15, before "set" delete the "e". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Rejection of claims 1-6, 11-16, 21-26, 31-33

4. Claims 1-6, 11-16, 21-26, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Sharma et al. (Sharma), U.S. Patent 5,491,640.

5. Pursuant to claims 1 (method, col. 4, ll. 14-21), 11 (computer readable medium, col. 4, ll. 40-63), and 21 (apparatus, col. 4, line 65 to col. 5, line 15), Sharma discloses generating a logic design comprising embedding a computer instruction within a two-dimensional schematic representation of the logic design to produce a unified database representation of the logic design, the computer instruction being devoid of declarations (Figs 5b, 12, 13a-13f); wherein the two-dimensional schematic representation includes a set of Register Transfer Diagrams (RTD) (Figs. 5A, 5B, the CDFG; col. 5, ll. 55-66).

6. Pursuant to claims 2, 12, and 22, further comprising generating the computer instruction (Fig. 7, #86).

7. Pursuant to claims 3, 14 and 24, further comprising importing the computer instruction.

8. Pursuant to claims 4, 13, and 23, wherein the computer instruction is devoid of entries to a selectivity (*sensitivity*) list (Fig. 4, Fig. 12 does not include a sensitivity list; Sharma does not disclose the use of sensitivity lists in the computer instructions, therefore Sharma reads on this negative limitation).

9. Pursuant to claims 5, 15, and 25, further comprising notifying a designer when capturing data violates a set of design capture rules (Figure 1, #16; Figure 2b).

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10. Pursuant to claims 6, 16, and 26, further comprising using a set of abstractions (Fig. 6 illustrates a set of abstractions).

11. Pursuant to claims 31, 32 and 33, further comprising enabling a user to change the logic design by amending the computer instruction (the process of Sharma enables a user to effect a logic change via an instruction amendment (col. 3, ll. 15-22)).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejection of claims 7, 8, 10, 17, 18, 20, 27, 28, and 30

13. Claims 7, 8, 10, 17, 18, 20, 27, 28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma in view of the Jain Paper entitled A Comprehensive Pre-RTL IC Design Methodology. Sharma discloses all of the limitations of the base claims but fails to explicitly teach the CDFG being generated to alternate levels of design abstraction even though this process is common and well known in the art of IC design. The Jain paper illustrates the generation of CDFGs to C++ and RTL and it would have been obvious to one of ordinary skill in the art to use the teaching of Jain to further expand and elucidate the design methodology of Sharma since both involve the same design methodology with the Jain paper covering certain aspects in more detail.

14. Pursuant to claims 7, 17, and 27, further comprising generating C++ from the unified database (Figs. 1, 2, page 124).

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15. Pursuant to claims 8, 18 and 28, further comprising generating Verilog from the Unified Database (Figs, 1, 2, page 124).

16. Pursuant to claims 10, 20 and 30, further comprising generating synthesizable Verilog from the unified database (Figs, 1, 2, page 124).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please reference the PTO-892 for a complete listing.

18. Any inquiry concerning this communication or earlier communications should be directed to Examiner A.M. Thompson whose telephone number is (571) 272-1909. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 4:30 p.m..

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

19. Responses to this action should be mailed to the appropriate mail stop:

Mail Stop _____

Commissioner for Patents

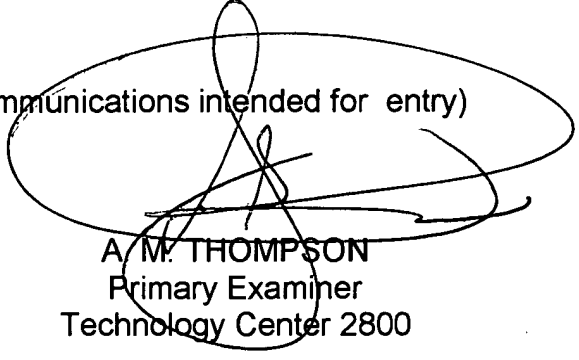
P.O. Box 1450

Alexandria, VA 22313-1450

or faxed to:

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(703) 872-9306, (for all **OFFICIAL** communications intended for entry)



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